



Scale: 5" / 100'  
Measured Depth Log

**Well Name** Rubyanna\_13NB-31W

**Location** Sec. 13, T6N-R67W

**State** Colorado

**County** Weld

**Country** United States of America

**Rig Number** H&P# 319

**Region** DJ Basin

**Field** Wattenburg

**Spud Date** 4/30/2014

**Drilling Completed** 5/2/2014

**Surface Coordinates** Sec. 13  
500' FSL  
460' FEL

**Ground Elevation** 4829'

**K.B. Elevation** 4853'

**Logged Interval** 5000' **To** 6363'

**Total Depth** 6363' (end of vertical section)

**Formation** Shannon

**Type of Drilling Fluid** Fresh Water Based Mud

## Other Symbols

### Oil Show

- ORGANIC
- PINPOINT
- DEAD
- EVEN
- QUESTIONABLE
- SPOTTED STAINING

### Porosity

- E EARTHY
- F FENESTRAL
- F FRACTURE
- X INTERCRYSTALLINE
- Q INTEROOLITIC
- MOLDIC

### Engineering

- ORGANIC
- PINPOINT
- VUGGY
- BIT
- CASING
- CONNECTION (LEFT)
- CONNECTION (RIGHT)
- CONNECTION GAS
- CORE - LOST
- CORE - RECOVERED
- DST INTERVAL
- FAULT
- FORMATION TOP
- GAS SHOW
- MN DEPTH
- NORMAL FAULT
- OIL SHOW
- OVERTURNED STRATA
- REVERSE FAULT
- SIDEWALL CORE (LEFT)
- SIDEWALL CORE (RIGHT)
- SLIDE
- SURVEY
- TRIP GAS
- WIRELINE TESTED - LEFT
- WIRELINE TESTED - RT

### Rounding

- ANGULAR
- ROUNDED
- SUBANG
- SUBRND
- L LITHOGRAPHIC
- MX MICROXLN
- MS MUDSTONE
- PS PACKSTONE
- WS WACKESTONE

### Textures

- BS BOUNDSTONE
- C CHALKY
- CX CRYPTOXLN
- E EARTHY
- FX FINELYXLN
- GS GRAINSTONE
- M MODERATE
- P POOR
- W WELL

## Zone Color Coding

- Oil
- Condensate
- Gas
- Note
- Core
- Pressure
- Error
- Water
- Seal

## Accessories

## Fossils

ALGAE  
 AMPHIPORA  
 BELEMNITE  
 BIOCLASTIC  
 BRACHIOPOD  
 BRYOZOA  
 CEPHALOPOD  
 CORAL  
 CRINOID  
 ECHINOID  
 FISH  
 FORAMINIFERA

## Fossil

GASTROPOD  
 OOLITE  
 OSTRACOD  
 PELECYPOD  
 PELLET  
 PISOLITE  
 PLANT REMAINS  
 PLANT SPORES  
 SCAPHOPOD  
 STROMATOPOROID

## Minerals

ANHYDRITIC

## Argillaceous

ARGILLITE GRAIN  
 BENTONITE  
 BITUMENOUS SUBSTANCE  
 BRECCIA FRAGMENTS  
 CALCAREOUS  
 CARBONACEOUS FLAKES  
 CHTDK  
 CHTLT  
 COAL - THIN BEDS  
 DOLOMITIC  
 FELDSPAR  
 FERRUGINOUS PELLET  
 FERRUGINOUS

## Glaucconite

GYPSIFEROUS  
 HEAVY MINERAL  
 KAOLIN  
 MARLSTONE  
 MINERAL CRYSTALS  
 NODULES  
 PHOSPHATE PELLETS  
 PYRITE  
 SALT CAST  
 SANDY  
 SILICEOUS  
 SILTY  
 TUFFACEOUS

## Stringer

ANHYDRITE STRINGER  
 BENTONITE STRINGER  
 COAL STRINGER  
 DOLOMITE STRINGER  
 GYPSUM STRINGER  
 LIMESTONE STRINGER  
 MARLSTONE (CALC) STRG  
 MARLSTONE (DOL) STRG  
 SANDSTONE STRINGER  
 SHALE STRINGER  
 SILTSTONE STRINGER

## Other

**Start Logging Date** 05-01-2014

**Equipment** 2 Man Logging Service Mlogger Red Box #142 Calibration: Standard Calibration of Mlogger

**End of Vertical Section** 05/02/2014

## Rock Types

UNKNOWN  
 SHALY SANDSTONE  
 SANDSTONE  
 SALT AND PEPPER SANDSTONE  
 SILTY SHALE  
 SILTSTONE  
 SHALE

CHALK  
 MARLSTONE  
 ANHYDRITE  
 GYPSUM  
 SALT  
 SIDERITE or LIMONITE  
 LIMESTONE

DOLOMITE  
 CHERT  
 COAL  
 CLAYSTONE  
 SHALE GRAY  
 SHALE COLORED  
 CONGLOMERATE

BRECCIA  
 TILL  
 BENTONITE  
 TUFF  
 IGNEOUS  
 METAMORPHIC  
 CEMENT

## Operator

**Company** Extraction Oil & Gas

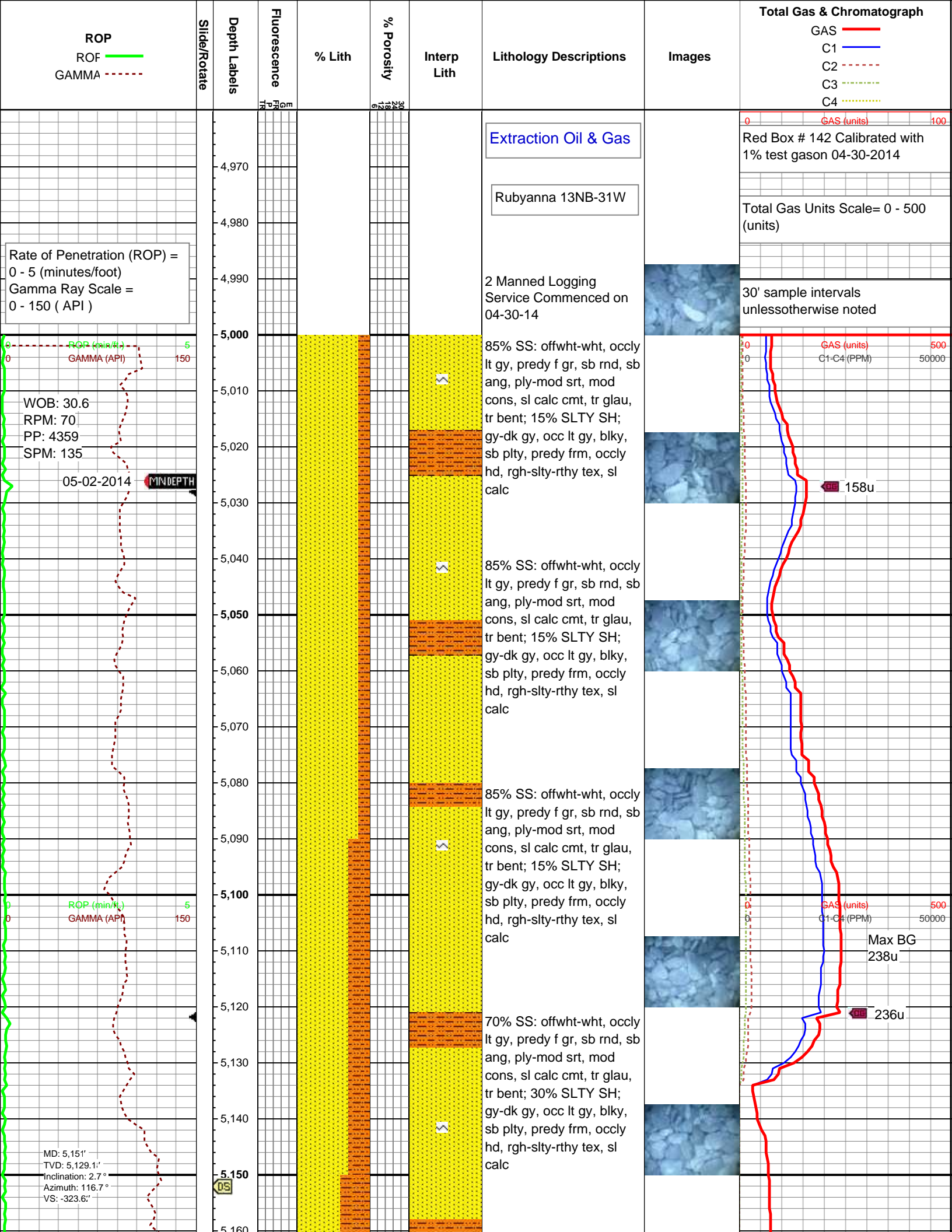
**Address** 1888 Sherman St, Suite 200  
Denver, Colorado 80203

## Geologist

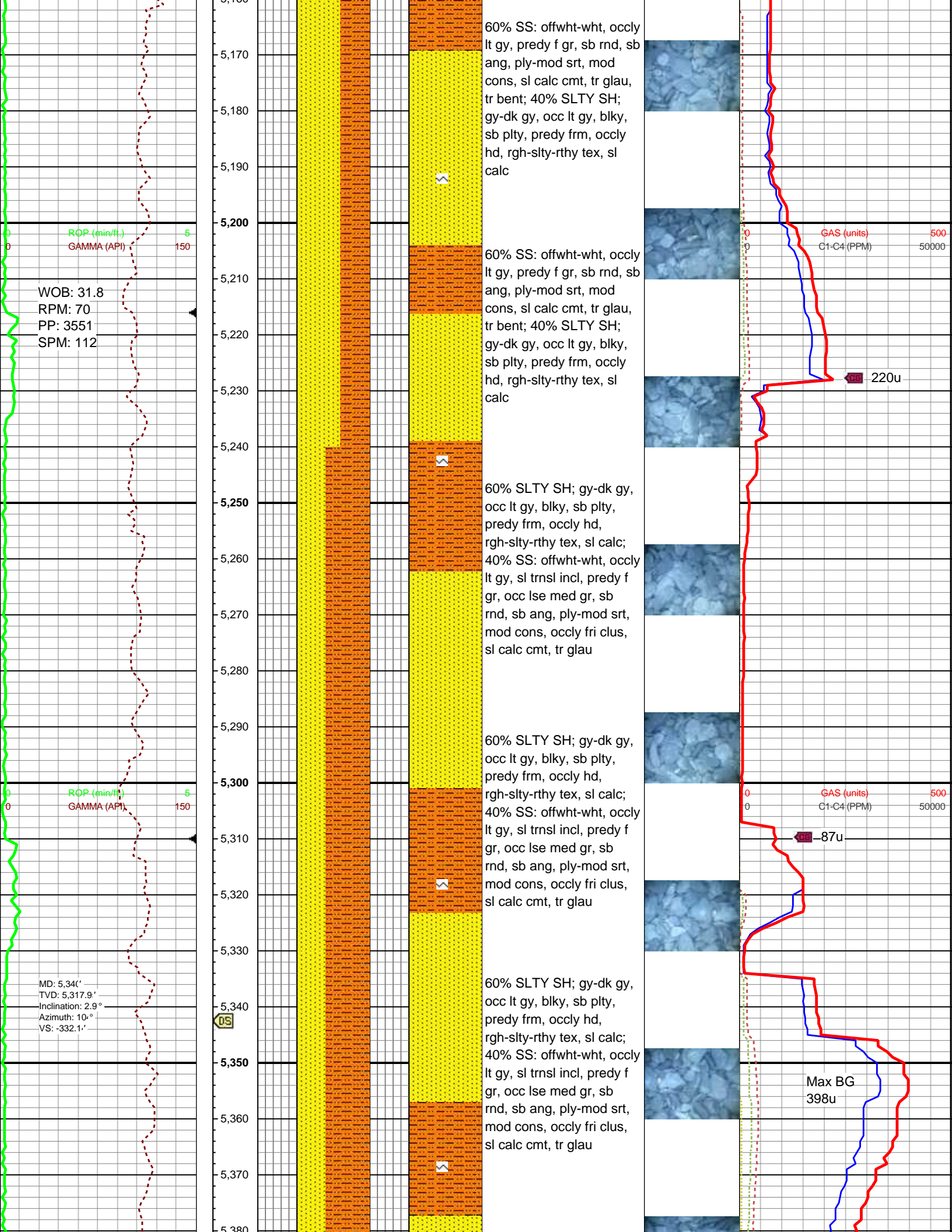
**Name** Anthony Cox & Justin Perry

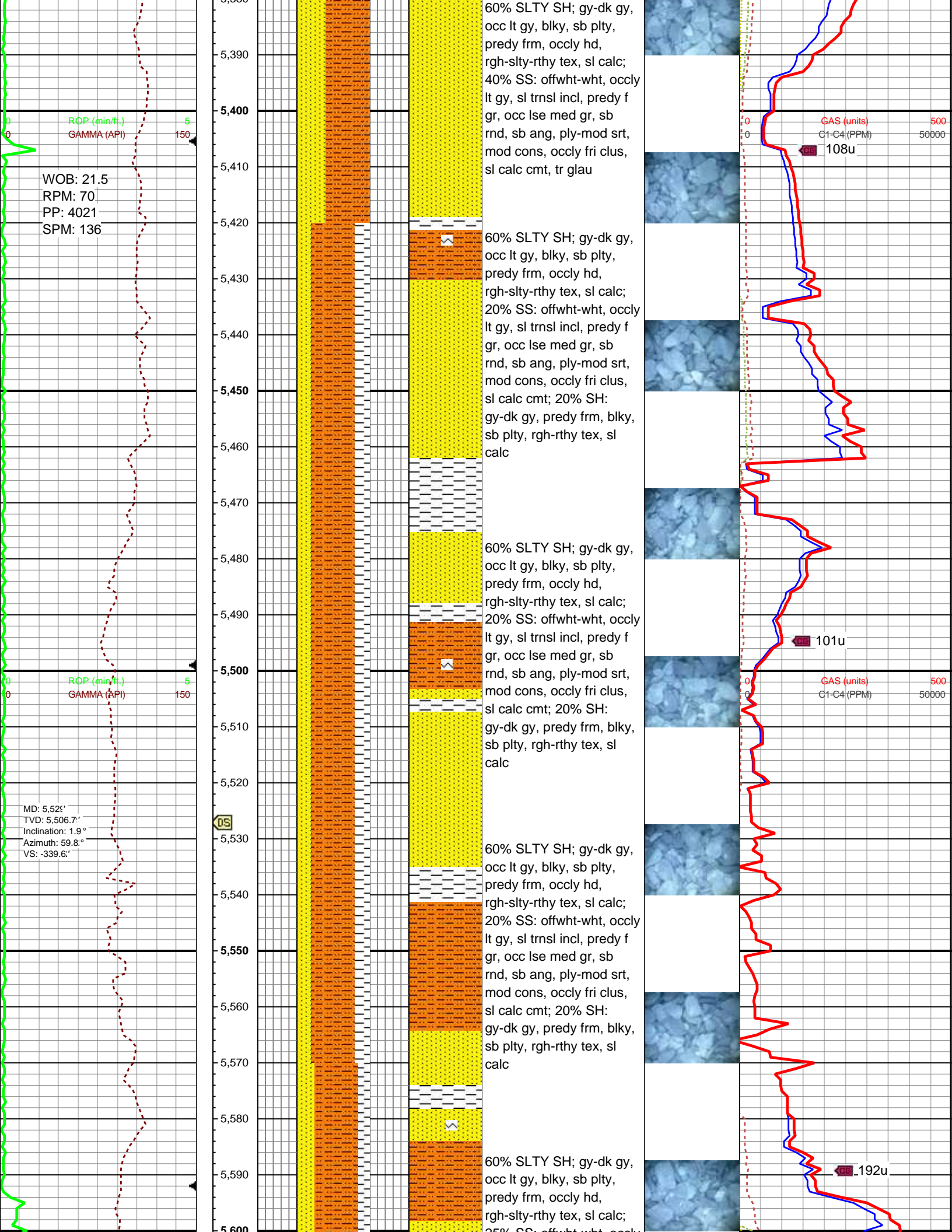
**Company** ALS Empirica

**Address** 600 17th Street, Suite 725S  
Denver, CO 80202



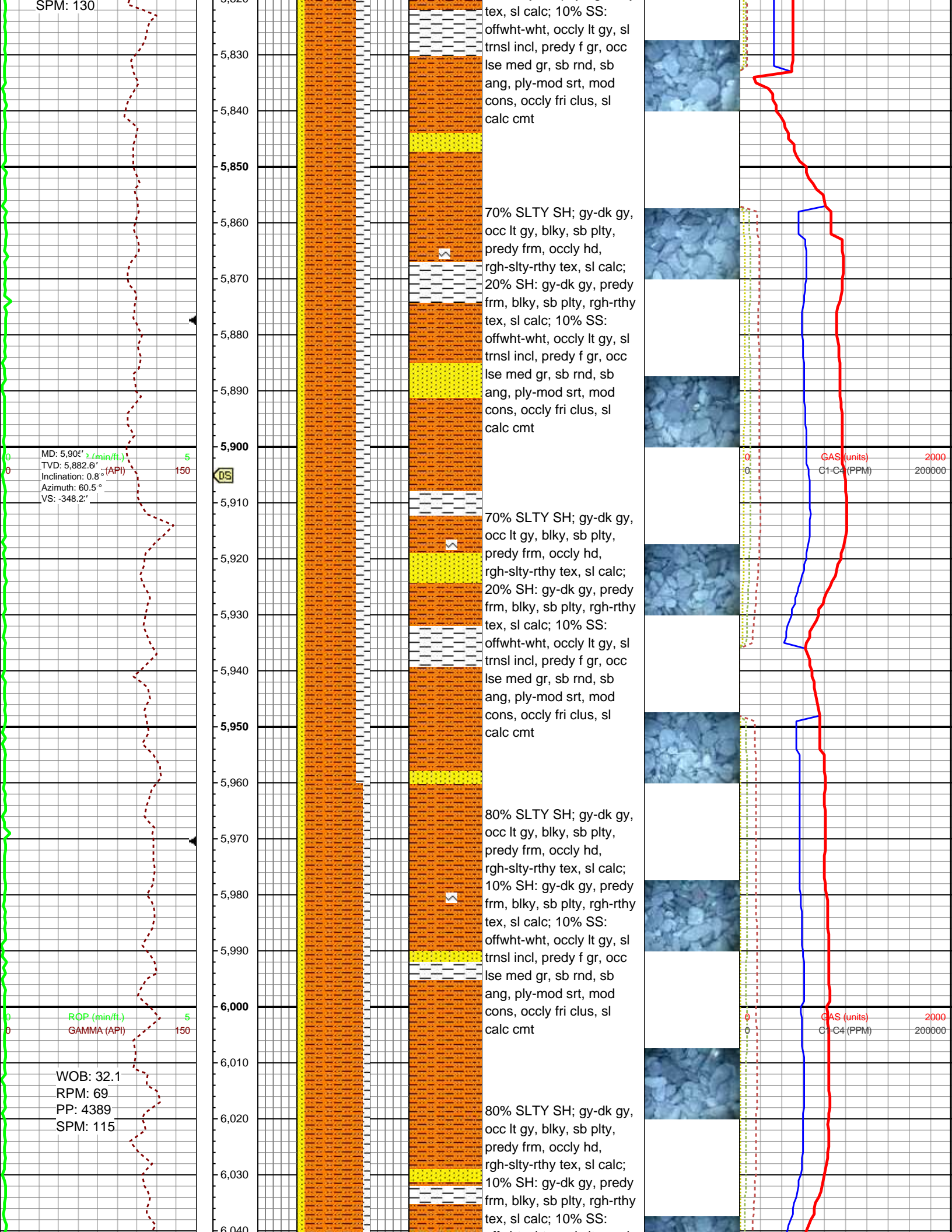




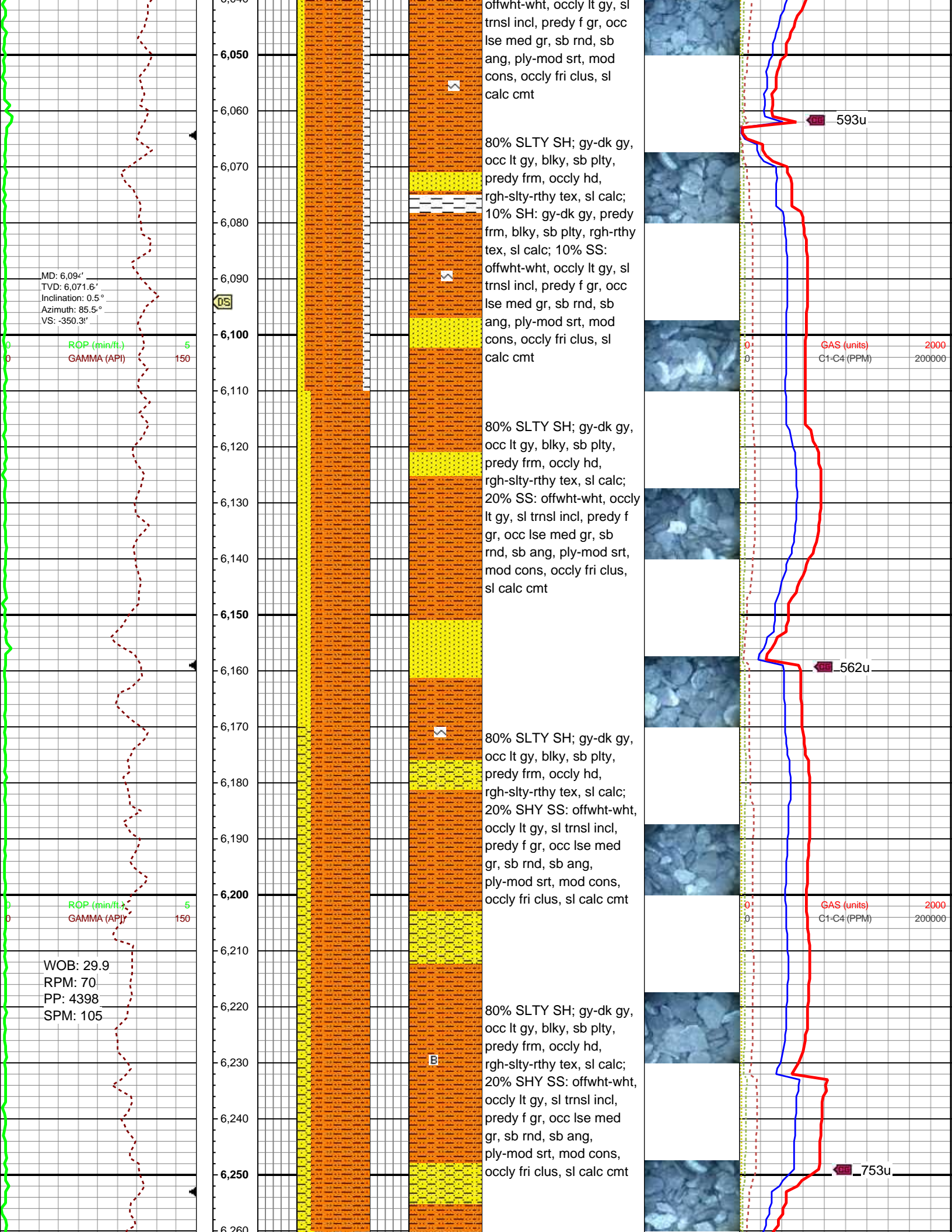




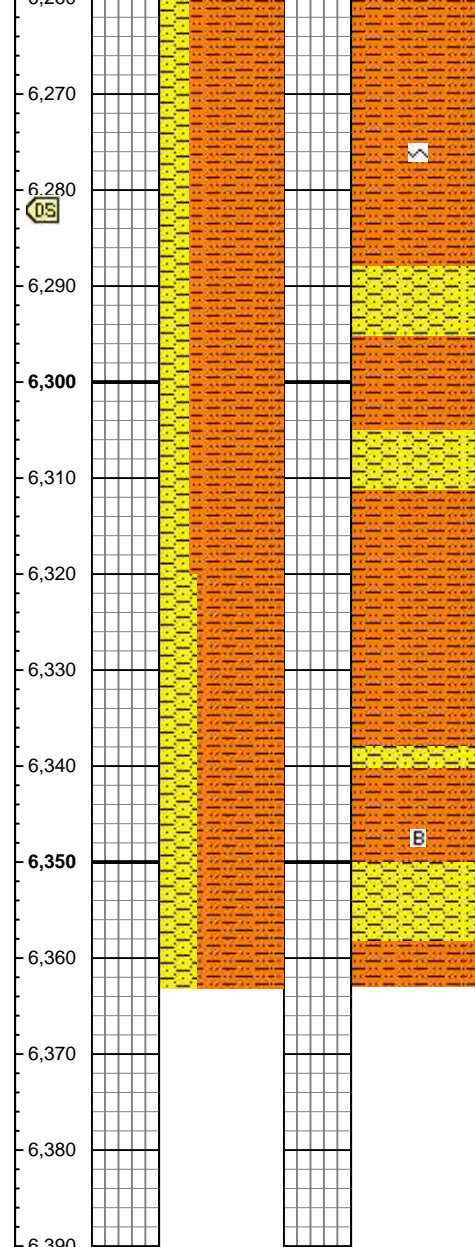
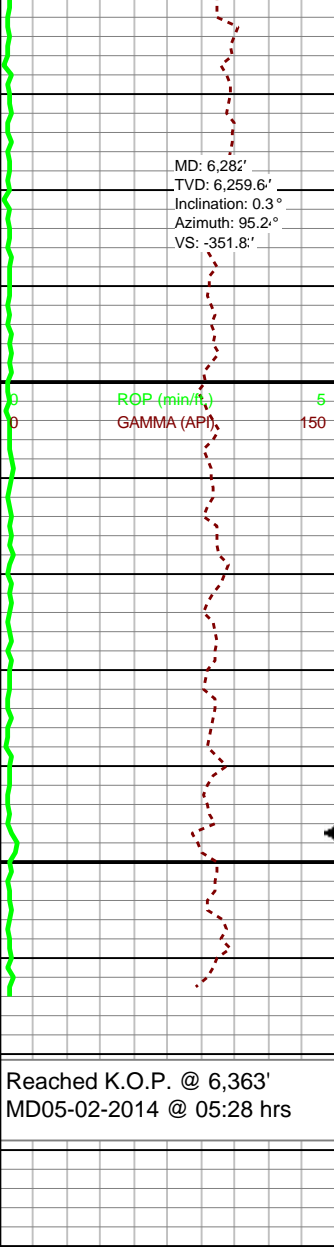












75% SLTY SH; gy-dk gy,  
occ lt gy, blkly, sb plty,  
predy frm, occlly hd,  
rgh-sltly-rthy tex, sl calc;  
25% SHY SS: offwht-wht,  
occlly lt gy, sl trns l incl,  
predy f gr, occ lse med  
gr, sb rnd, sb ang,  
ply-mod srt, mod cons,  
occlly fri clus, sl calc cmt

70% SLTY SH; gy-dk gy,  
occ lt gy, blkly, sb plty,  
predy frm, occlly hd,  
rgh-sltly-rthy tex, sl calc;  
30% SHY SS: offwht-wht,  
occlly lt gy, sl trns l incl,  
predy f gr, occ lse med  
gr, sb rnd, sb ang,  
ply-mod srt, mod cons,  
occlly fri clus, sl calc cmt

Thank You for using  
ALS Empirica

